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THE AVICULTURAL SOCIETY

The Avicultural Society was founded in 1894 for the study of British and foreign birds in the wild and in captivity. The Society is international in character, having members throughout the world.

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Cover Picture: Female Narcondam Hornbill *Rhyticeros narcondami* by Rosemary Low.

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The Avicultural Society

FOR THE STUDY OF BRITISH AND FOREIGN BIRDS
IN THE WILD AND CAPTIVITY

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FROM THE CHAIRMAN

This issue is the first to be edited by Llŷr Davies, who is taking over from Martin Greene. Llŷr, who is Aviculturist at Waddesdon Manor Aviary, will be working with support from Martin until he feels confident to take full responsibility for the magazine. (His article was earmarked for this issue before he took over - not an egoist! - Ed.)

Some of the new stock of medals which members were able to see at the AGM have now been engraved for recipients of the Ezra Award for service to the Society. In future the Ezra Award will be used to reward sustained breeding with a particular species or group of species over a number of years. This award will be available to members anywhere in the world, on publication of an account of their work in the Avicultural Magazine. The Society's medal will also continue to be awarded for first UK breedings. In recognition of modern husbandry practices, the medal will henceforth be awarded for parent- or hand-rearing (it was originally limited to parent-rearing) and both individual and institutional members will be eligible (institutions previously received a certificate rather than a medal).

This year's Raymond Sawyer Scholarship has been awarded to Anna Temple, who will attend the Avian Conservation Breeding and Husbandry course on Jersey in November. This was Anna's third application, and she impressed the selection panel with her determination to gain both varied practical experience and relevant academic qualifications to help her build a career in aviculture and conservation.

The September/October trip to Germany has proved very popular; one of our largest groups so far is set to enjoy a long weekend visiting some excellent zoos, bird parks and private collections.

We will have a stand at the National Exhibition at Stafford on Sunday October 8th, and I am also looking forward to the Autumn Social Meeting at Blackpool Zoo on Saturday October 14th - full details available soon. The 2018 AGM will be held at Cotswold Wildlife Park on Saturday March 24th.

Nigel Hewston

PRESIDENT'S MEDAL AWARDED TO DR HENRI QUINQUE

Earlier this year Gregory Guida visited our vice-president Dr Henri Quinque and presented him with the Avicultural Society's President's Medal, recognising his lifetime of achievement in the fields of aviculture and conservation.

Members have been privileged to visit Dr and Mme Quinque twice in the last ten years at their home in Le Mesnil Aubry. Here they have built up an outstanding collection which includes not only the unique breeding population of Kagu *Rhynochetos jubatus* which was the subject of a special issue of the Avicultural Magazine, 115(2), pp.49-112 in 2009, but which has also produced world first breedings of the Cloven-feathered Dove *Drepanoptila holosericea* (1985. *Avicultural Magazine*, 91(1-2), pp.32-41.) and African Pygmy Goose *Nettapus auritus*. Other species bred repeatedly include the endangered St Vincent Amazon *Amazona guildingii*, Great blue Turaco *Corythaeola cristata* and many other rare and difficult species.

The President's Medal has been awarded on only a few occasions.A preliminary search reveals previous recipients to be Phyllis Barclay-Smith MBE and Arthur Prestwich in 1960 and Dr Jean Delacour in 1967. Dr Quinque was delighted and greatly honoured to receive the award.

HORNBILLS IN ZOOLOGICAL COLLECTIONS

by Rosemary Low

The hornbill family is a large one, ranging widely in the tropics from West Africa to Indonesian Islands. Twenty-six African species were recognised and 28 Asiatic/ Indonesian species when Kemp wrote his classic book **The Hornbills**, published in 1995.

The larger species are particularly charismatic, striking, almost regal in appearance, and highly intelligent. Their slightly humorous appearance has even made them subjects of cartoon characters. But all are handsome birds, worthy of close inspection. Their thick, curvy eyelashes evoke feelings of envy in many human females!

They lack bright plumage colours, being attired in shade of black, grey, white and brown. Some species have red or yellow bills and/or brightly coloured bare skin around the eyes or throat, or throat pouches.

The feature that sets them apart is the casque, an enlargement of the beak. Very few birds share this feature, the best known being the cassowary. The beak of birds, like our fingernails, is made from keratin. One important point is that hornbills need a vertical pointed tree branch (unattached at the top) in order to clean the interior of their beak. This prevents food from hardening inside. Because hornbills have long beaks and short tongues they must toss food items from the bill tip to the throat. Toucans might be described as the neotropical hornbill equivalent, also with very long bills designed for frugivorous and animal protein diet.

The hornbill's casque is said to be a feature shared with the hadrosaurids – duck-billed dinosaurs that lived 60 million years ago. They had hollow cranial crests or tubes. The whole front of the skull was flattened and broadened to form a beak.

The hornbill's casque is virtually non-existent in young birds, except as a paler area. I was lucky enough to have a breeding pair of Wrinkled Hornbills *Aceros corrugatus* in my care at Palmitos Park, Gran Canaria. The casque of the first youngster reared developed almost imperceptibly but, at six months of age, it was almost as large as the female's. Only then was his gender certain, indicated by the red on the casque and lower mandible.

What is the purpose of this feature? Suggestions include:

- To provide support for the upper mandible.
- To amplify the hornbill's calls, to make them more readily audible in forest.
- To help to communicate age, sex and status, together with the bill.

However, in many species the gender is indicated by eye colour, as is immaturity. For example, in the Rhinoceros Hornbill *Buceros rhinoceros* the eyes are red in the male, white in the female and brown in very young birds.

The order of hornbills is called Bucerotiformes and the principal family is Bucerotidae. The largest hornbills belong to the genus *Buceros*. These words are derived from the Latin *bucerus* which means "having ox's horns".

The smaller African species are quite often kept in private aviculture; the large species require so much space that they are generally considered as zoo birds. As an example of a large enclosure, when Cotswold Wildlife Park bred the Great Hornbill *Buceros bicornis*, the largest species of all, their aviary measured 27m long. It was 5 metres wide at the narrowest point, with the addition of an enclosed area 3.5 metres long.

Most captive pairs do not have such spacious accommodation which is regrettable because the flight of a large hornbill has a magnificence rarely found in other birds. This is only partly because of the length of the wing which varies from 56cm in the Ground Hornbills *Bucorvus spp.* and up to 52cm in the Great to 15cm in the Guinea Dwarf Black Hornbill *Horizocerus hartlaubi*. However, Ground Hornbills do not fly high. Relate this to the weight of these species -- 4kg in Ground Hornbills, 3kg in the Great and only 154g in the Dwarf Black.

Breeding habits

Hornbills have one habit not shared by any other bird – the female is sealed into the nest, leaving only a slit for food to be passed in, droppings voided and food debris passed out.

In most species, the female starts to moult soon after laying commences. Alan Kemp, in his book **The Hornbills**, states that this is unusual in birds in that 'it imposes increased nutritional requirements during what is already a demanding period'. The moult is another aspect of these wonderful birds that sets them apart from all others.

One of the most successful hornbill breeding locations in the UK is Paulton's Park, near Romsey in Hampshire. Six species have been reared there. Curator, Geoff Masson, told me:
"They are fascinating birds, not just because of their colour, beak shapes and body size, but also because of the commitment shown by the male. The female can spend well over 100 days walled in the nest-box and she and her chicks are totally reliant on the male feeding them. I can't think of another bird species that gives that commitment".

Laura Gardner (neé Paterson) who had breeding pairs of hornbills in her care as curator at Leeds Castle Aviary in Kent, sadly now closed, responded in a similar vein. "I am fascinated by the complex social structure and the bond between the pair. This must be proven before the female will allow the male to mate. The male must demonstrate that he will offer the choicest food items to the hen before taking them himself and that he will defend the nest site from any predator. We have seen, especially in the *Tockus* hornbills, that if the male eats the best food items she will not mate with him. The female invests much energy in nesting and rearing the chicks so he must prove himself first.

Captive breeding

The two vital requirements in breeding hornbills are correct size and position of the nest entrance and large quantities of food when chicks hatch, fed at frequent intervals. The latter aspect is very time consuming but essential for success.

Some hornbills have seldom been kept in captivity and the larger species have been reared mainly in zoos, primarily because of the large enclosures needed and, perhaps, because of the expense of feeding them. In 2016 Joost Lammers, curator of Avifauna bird park (Alphen-aan-der-Rijn, Netherlands) and record keeper for hornbills in European zoos, listed eight African species and nine Asiatic species that had reared young in European zoos (personal communication).

Great Hornbill at Prague Zoo

One of the frustrating aspects of breeding hornbills used to be that if a nest failed the reason was unknown. The advent of nest cameras changed all that. Chester Zoo was one of the first to use this equipment. After several years of failed attempts by the Great Indian Hornbills in the Tropical Realm (large tropical house) four nest-box cameras were connected to an inexpensive portable television used as a monitor and based in the bird kitchen. Another camera was fitted for the pair inside the Asian elephant house with a monitor in the adjacent keeper area. Video recorders were connected to both televisions for later viewing and analysis.

Roger Wilkinson, curator at the time, wrote: "Additional to the information of direct relevance to better husbandry of our captive birds is the opportunity to collect significant scientific data on the female's moult, parental care and nestling development. We encourage students to take advantage of the research opportunities presented by these cameras..." He further mentioned the use of monitors to allow zoo visitors to observe the nesting cycle of these extraordinary birds.

Nest-boxes and logs

Hornbills will nest in boxes or in large natural logs adapted for their needs, by making a narrow slit entrance. The correct nesting site is of crucial importance in all hornbill species. During the incubation and rearing periods the female is confined to the nest hole. The entrance is closed by the female or both, leaving a narrow slit through which the male feeds her. A mixture of faeces and fruit pulp is used to close the hole, with the head turned sideways to apply the "plaster" with the bill.

The most important part of the nest is the entrance. If it is too wide it will be difficult to "mud up". The female must be able to stand on the nest floor and insert her beak through the slit to be fed. There should not be a perch at the entrance. Captive females exit the nest after a period of up to 13 weeks (less in the small species) by breaking the seal. Both parents then continue to feed the young, until they fledge. In a study of one nest of wild Helmeted Hornbills *Rhinoplax vigil* the estimated period the female stayed in the nest was 160 days.

Roger Wilkinson noted (2002) that after one season of camera use it was learnt that both female Great Hornbills laid but a single egg. The female in the elephant house removed all the bark chips provided as nesting material and she sat at the side of the egg, rather than covering it! As a result of this knowledge the nest-box was modified to include a concave bottom. The other female did not remove the nesting material and she incubated in the normal manner.

Diet

Hornbills are mainly fruit-eaters but animal protein also plays a part in their diet. Unfortunate sparrows or mice that enter their enclosures might be speedily dispatched! In the wild the Papuan Wreathed *Aceros plicatus* has been known to catch crabs on a beach. For this reason hornbills cannot be kept with smaller birds. They might co-exist with larger species; at Cotswold Wildlife Park (CWP) a pair of Great Hornbills was maintained for some years with a breeding pair of Black Storks.

Rearing foods

Live insects are often the most important part of the rearing diet. In the CWP's Great Hornbill success, the female suddenly switched from feeding live-food to fruit when the chick was six weeks old.

While curator at Palmitos Park, Gran Canaria, I closely observed the breeding pair of Wrinkled Hornbills. The female accepted food through the slit as readily from the keepers as from the male. As he refused crickets, these were offered directly to her four times daily between 9am and 6pm. She took them for the first few days but then ejected them angrily, usually injuring them first. The reason for this rejection was not clear.

Fruit, mainly papaya and banana, were taken eagerly in almost any quantity offered. She also accepted mealworms. She never refused food and often seemed very hungry. Perhaps the male did not give her enough.

Wrinkled Hornbill with youngster at Palmitos Park, Gran Canaria

The male relished superworms *Zophobas morio*. He would have consumed unlimited quantities but was usually given about 30 at a time, accepting them gently from the hand or from a hand-held container. He preferred to feed her on mice *Mus musculus*, lizards (two common endemic species offered live) and mealworms *Tenebrio molitor*. He would feed only small lizards to the female, eating the large, tough ones himself.

Mice were fed daily, especially after the chick was 30 days old, averaging about eight, decreasing to two when the chick was 50 days old. New born mice were fed directly to the female, and the large ones to the male, who broke all the bones in their body before offering them.

An interesting aspect of working with these hornbills was observing the female's choice when feeding the chick. Between two and four yolks of hard-boiled eggs were given to her daily. When the chick was feathered it sometimes tried to intercept the food but she did not permit this. She often fed an egg yolk to the chick as I offered it yet seldom let it take fruit. Did her instinct tell her that the young one needed protein? It left the nest after 70 days.

The maintenance diet consisted of about 90% chopped fruits - banana, guavas, grapes, apple, pear and orange - also some soaked dog chow and any mice or lizards that entered the aviary. Crickets were refused; no other live-food was offered.

Tarictic Hornbills

Tarictic Hornbills, a group of five species, are among the best known in zoos. The first UK breeding occurred at Chester Zoo in 2001. A male Mindanao Tarictic Hornbill received from Avifauna Bird Park that year was believed to be *Penelopides affinis samarensis*. He was very aggressive towards people. The female laid her first egg only twelve days after the introduction of a new nest-box.

A camera revealed that she laid three eggs but the male was not feeding her. She was hand-fed by the keepers but also left the nest to feed herself. The eggs were removed and found to be infertile. Twenty days later she laid the first of four eggs. This time the male fed her and also passed her leaves of Dracaena. Three chicks were hatched and reared but the only female among them was found dead shortly after fledging. General Curator Roger Wilkinson pointed out that helpers at the nest have been reported in the wild and sometimes only young males remain in the nest territory.

The Philippine islands are rich in hornbills, with nine species, all endemic. Sadly, six are threatened with extinction. Several species of Tarictic hornbills are found there. Due to habitat loss, hunting and trapping, none are doing well and one, *Penelopides ticaensis*, may already be extinct.

The Visayan Tarictic Hornbill *P. panini* is a very handsome medium-sized hornbill (45cm) with its snowy-white mane, zebra-striped upper mandible and black and white plumage. Found mainly on the islands of Panay and Negros, it has probably already been extirpated from the smaller islands, and its current population is believed to be fewer than one thousand individuals.

There has been a degree of success in captive breeding on Panay and on Negros as part of the Philippine Hornbill Conservation Programme which commenced in 1994. Rehabilitation of illegally trapped birds has also occurred - more than twenty to date. Chester Zoo supports this.

Chester is one of the few zoos to breed the Visayan Tarictic, commencing in 2008. This was probably the first breeding success outside the Philippines. In 2013 a video from one of the nest-boxes showed the female feeding four chicks with locusts. This wonderfully revealing footage can be viewed on Chester Zoo's website. Chester has sent young to various zoos in Europe.

Few collections have been more successful in rearing hornbills than San Diego Zoo and its sister facility San Diego Safari Park. At the zoo 38 South Sulawesi Tarictic Hornbills *Penelopides exarhatus sandfordi* have hatched since 1996 and the number at the park was 26 in September 2015.

When I visited San Diego Zoo in 2010 the star of the large Parker Aviary was one of these hornbills. His interaction with visitors included swooping down low between my friend and me when our backs were turned. He did not scare us! It was a privilege to be singled out!

South Sulawesi Tarictic at San Diego Zoo

In 2005 a young pair was sent to London Zoo's Whipsnade Park. They hatched six chicks (three reared), before being moved to Avifauna Bird Park at Alphen aan den Rijn (Netherlands) in 2015. Whipsnade had made up another pair with one of their youngsters and one from Avifauna. They hatched their first chick in 2015 but it was not reared.

Among the most magnificent hornbills is the Papuan Wreathed *Aceros plicatus*, with a length of about 65cm and weighing 1.5 kilos. On May 17 2014 Newquay Zoo's pair hatched a chick. This was a notable success, not only because of the rarity of the species, but because the last time these hornbills produced young was in 2001 at Paignton Zoo. They were transferred to Newquay in December 2013. In 2015 the pair reared another chick, with the 2014 young one helping to feed the female.

I saw it in July 2015 when its creamy head colouring denoted it is a male. Had it been a female, the head plumage would by then have been black.

African hornbills

The African hornbills might be divided into three groups: small species with barely discernible casques, big species with large, prominent casques and the Ground Hornbills. The latter are huge black birds that stalk about with an air of wisdom and, unlike most species, spend little time in trees. These imperious looking hornbills, sometimes seen in bird shows at zoos, are an entity to themselves and I will not cover them here.

Some of the larger African species are being bred in small numbers in zoos throughout Europe and in the USA. Great care has to be taken when introducing male and female of the larger hornbills as aggressive behaviour might occur.

At 60-70cm the Silvery-cheeked *Ceratogymna brevis*, from north-eastern and eastern Africa, is the largest hornbill within its range. The male's large casque is pale yellow; the female has a small casque which is dark brown. In both, the bare skin surrounding the eye is blue and the bill is brown. Up to one hundred birds are known to congregate where good food sources occur, such as fruiting trees and locust swarms.

At Paulton's Park in Hampshire a pair was acquired in 2008. They nested for the first time in 2013 but the chick died. No attempt was made in 2014 but in 2015 success was achieved. After the single youngster fledged the male was so protective towards it that he attacked the female, who was then removed for a while. In 2016 two young fledged.

Paulton's exhibit the only breeding pair of Black-casqued Wattled Hornbills *Ceratogymna atrata* in the UK and achieved the first UK breeding, if not the first in Europe. To date six have been reared, including one in 2015 and the first female in 2016.

Writing in 1997 (Paterson 1992, Gardner 1998) described his Black-casqu as "a most charming pet." Extremely tame, it enjoyed being scratched, "slowly bending its head and raising the crown and nape feathers in parrot fashion." It allowed itself to be picked up and could catch food thrown to it "with unerring accuracy." Kept in a building warmed by a stove, at night it would squat before the fire. The hornbill enjoyed having its head scratched because, like parrots, these birds preen their mates and other individuals in their social group.

Before the 1990s few hornbills had been bred -- but not many were available. Leeds Castle Aviary in Kent gained the first UK breeding of two species -- Von der Decken's *Tockus deckeni* in 1990 and the Crowned *Lophoceros alboterminatus* in 1997 (Paterson 1992, Gardner 1998).

The Crowned Hornbill is mainly black with white underparts and a white-tipped tail. The striking red bill sets off the two-tone plumage. The female has a shorter casque and blue throat patch, that of the male being black.

A pair was purchased in February 1996. Nesting commenced in 1997. The female started to mud-up the entrance hole on May 20 and the first of two chicks was heard on July 11. The male was hand-fed with locusts twice daily. A sudden increase in the numbers taken to the nest (about twenty at each feed) indicated that hatching had occurred.

On August 11 the female broke open the mud seal and left the box, after 67 days inside. The instinct to "mud-up" is inherent: the two young re-sealed the entrance from inside. On August 18 and 25 the female entered the nest and emerged an hour later -- perhaps trying, unsuccessfully, to encourage the young ones to leave. Not until September 2 and 3 did they emerge. They soon learned to feed themselves but continued to beg from the parents for about six weeks.

Von der Decken's is one of the few hornbill species that might be housed with other birds – but not when breeding; at Leeds Castle the pair was kept with Spreo Starlings *Lamprotornis superbus* in a planted aviary. They had access to a brick-built shelter with heating in winter and lights on timers to extend feeding hours.

Nest-boxes were provided in the shelter and outside. The female examined them all and, after three weeks, chose one inside. She started to mud up the entrance on May 11 and completed the task on May 15. The next day the Spreo Starlings and their newly fledged young were removed from the aviary.

Young hornbills were heard on June 17. The supply of live-food was increased and the male took all the locusts straight to the female. On July 14 she left the nest and two young were seen looking out. Three weeks later they fledged, looking exactly like the female but with blue eyes. Sadly one was found dead seven days later and the cause of death could not be determined. The female nested again. One youngster fledged on November 22 and again this was 50 days since it had first been heard.

Cameras were installed in the nests of both pairs, with monitors for the public. They could see the female feeding the chicks. Another benefit, said Laura, was being able to observe the moult of the female. She told me: "I assume this behaviour developed to help keep the hen cool in the confined space of the nest. She would be very vulnerable to any predator during this period and would not be able to escape if one entered the nest."

At Oklahoma City Zoo a pair of Von der Decken's Hornbills reared 17 young between 1995 when they were introduced, and 2002. In 1998 the female broke her leg. A cast was fitted but she pecked at it, so the injury did not heal. Six months later her foot was amputated. This did not stop her breeding!

This female liked to line her nest with blades of grass, delivered by the male after she sealed the entrance. Cameras inside the nest showed that the incubation period was 24 days. Four chicks hatched but two died, and were ejected through the slit. These losses were unusual as the pair had previously reared up to five young.

Von der Decken's is possibly the most common hornbill in Europe. Hornbill record keeper Joost Lammers in the Netherlands told me that as of September 2015 there were 79 males, 57 females and five unsexed birds.

Von der Decken's is very closely related to the Red-billed Hornbill *Tockus erythrorhynchus* which is also well known in aviculture.

Longevity

The record for hornbill longevity goes to the famous "Josephine", a Great Indian who lived at London Zoo for 47 years. She was believed to be about four years old on arrival. A number of the larger species are breeding successfully in zoos when in their thirties.

Malaysian hornbills

It was my first and only visit to Malaysia – the land of hornbills. A four-hour drive from Kuala Lumpur is a very attractive Malaysian rainforest resort, reached via a 2½ hour boat trip from Kuala Tembeling, near the town of Jerantut. On the right side of the river the Dipterocarp forests of the Taman Negara national park stretch for many miles. These are lofty trees that can reach skywards for 200ft (60m), draped with orchids and ferns, in one of the world's oldest rainforests.

On the river journey the sight of a Rhinoceros Hornbill flying above the canopy filled me with excitement and anticipation. An enormous bird, 3ft (91cm) long, it is distinguished by its yellow banana-shaped beak and recurved orange and yellow casque above the bill. The long white tail contrasts with the huge black wings.

This is the largest and arguably the most magnificent of the Malaysian hornbills. Unique, imposing birds, their size, and confident, almost imperious air, produce a feeling of awe. Their intelligent eyes, when seen up close, are framed by the longest, thickest eyelashes of any bird alive. They fly like the kings of the forest, their wings making a whooshing sound.

Late one afternoon I was sitting in a clearing hoping for more sightings when I got into conversation with a young Indian man from London. With noisy wingbeats that displaced the air, hornbills began flying over the clearing and I jumped up excitedly. Four Pied Hornbills *Anthracoceros albirostris* landed in a large tree at the forest's edge! The young man had just come from a resort on the Langkawi Islands (he was on his honeymoon). When he saw the hornbills he exclaimed "Oh, they are so tame on the islands they fly down and take food from the breakfast table!" Illogically, this instantly devalued my sighting of them!

The Pied Hornbill is common through most of its very wide range. There is a record of a captive bird that was said to catch "passing swallows and munias in flight"! Anything that can catch a swallow has an incredible turn of speed – but hawking insects is a habit of this species, which has also been known to catch fish from shallow pools. It is a truly omnivorous bird, although figs and other fruit form most of its diet.

The Helmeted Hornbill

My rarest hornbill sighting was that of the extraordinary Helmeted *Rhinoplax vigil*. Nowhere common, it is not an easy bird of which to catch a glimpse. In fact, it was "many years" since the species had been seen on the bird-watching tour I was on, according to the leader.

The normal length hornbill tail has, in addition, two enormously elongated central feathers. It was indeed a thrilling moment to behold this bird – and I nearly missed it by lingering on a fallen log by the river, whose waters were strewn with large rotting tree trunks.

Unlike other hornbill species, males carry out "aerial jousting". Observations of this behaviour in or near fruiting figs suggests it might best be explained in the context of competition for and defence of food resources, mainly figs.

I have been fascinated by Helmeted Hornbills ever since I first saw them at Jurong Bird Park in Singapore. They are truly magnificent creatures of highly unusual appearance. Arguably the most distinctive of all hornbills, it is a more slender bird than the rhinoceros, but large, and weighing in at about 2.8 kilos, of which the casque and bill accounts for about 10% of its weight (according to Alan Kemp, author of The Hornbills). It has an unusual tail, white with a black band near the tip - and it was its tail that betrayed its presence, high up in a tree close to the river's edge.

Unfortunately, Helmeted Hornbill casques can be carved like ivory. Unlike all other hornbills, the casque is solid, not hollow. It is valued by the Chinese at £4,000 per kilo – three or more times the price of elephant ivory. The "red ivory" of this hornbill is causing it to be poached across Borneo, Sumatra and the Malaysian peninsula. It is painful to realise that this bird is being driven towards extinction by the greed and ignorance of the end-users in a tradition that pre-dates the Ming dynasty (1364-1664).

An investigator found that at least 1,800 hornbills were killed in 2013 and 1,027 beaks were confiscated by law enforcement officers.

According to a report published by the Environmental Investigation Agency in March 2015, in the Kalimantan region alone, an estimated 6,000 Helmeted Hornbills are killed every year. At this rate, this extraordinary bird will not survive much longer. I find this a heart-breaking situation. Poaching of rhinos and elephants gets media attention worldwide but this unique bird is virtually ignored.

In June 2015 forest rangers from the Gunung Leuser National Park (GLNP) in Sumatra announced the arrest of two suspected traders in helmeted hornbill beaks. Thirty hunters were involved in this illegal trade. Twelve hornbill beaks, two rifles, a digital scale and two mobile phones were confiscated. The suspects confessed to selling at least 124 beaks within six months to the same middleman. If found guilty, the poachers could face five years in prison and a US$10,000 fine. Dealers buy the beaks from hunters for US$8 per gram. The eventual price can be as high as $900 each.

This spectacular hornbill has been uplisted from Near Threatened to Critically Endangered in 2015 owing to severe hunting pressure for its casque and as a result of habitat loss from logging and agricultural conversion.

This extraordinary and unique bird could be extinct in a couple of decades if more is not done to deter this cruel trade. There are very few specimens in captivity.

Placing the Helmeted Hornbill on Appendix I of CITES in 1975 has done nothing to protect it. The trade in its head and beak went largely unnoticed and unhindered until the EIA report was published.

Illegal trade in live birds

Unless keepers of large hornbills make an effort to provide exactly what they need, their long-term future in aviculture is doubtful. Captive breeding is important because several species, especially those confined to islands, are threatened by forest destruction and illegal trade.

More information on the plight of the Helmeted Hornbill and the study to which Rosemary refers can be found in an article by Nigel Collar in Birding Asia, the bulletin of the Oriental Bird Club. The whole article, with some very good photographs, can be found at www.orientalbirdclub.org/birdingasia-24.

Also well worth a look is a 25-minute film on hornbills in Thailand made for the Bird Conservation Society of Thailand. The commentary is in Thai, but there is some stunning footage of Helmeted and nine other species in the wild. View at www.now26.tv/view/96646.

The Avicultural Magazine index will also take you to breeding reports and other articles on a number of hornbill species in past magazines.

Rosemary Low is well-known worldwide as an author and speaker, particularly on parrots. Rosemary is also an Honorary Member of the Avicultural Society, a privilege awarded to members with over 50 years continuous membership. rosemaryhlow@gmail.com.

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SOCIETY TRIP TO IRELAND - SEPTEMBER 2016

by Bill Jesson

Having met up successfully at Belfast Airport, our party of twenty-one boarded the coach we were to use for the trip and transferred to Belfast Zoo.

Belfast Zoo, built on the site of an earlier 'pleasure gardens' in 1933, is beautifully situated on a steep hillside below a rugged crag, with stunning views of Belfast Lough. Here we were met by Raymond Robinson, a member of staff who acted as a very informative and entertaining guide. The bird collection is mainly housed in a range of spacious, planted aviaries, and a nearby free-flight tropical house, although 'park birds' are scattered throughout the collection. These latter include Andean Goose *Chloephaga melanoptera* and Coscoroba Swan *Coscoroba coscoroba* amongst the waterfowl, while Common Ostrich *Struthio camelus*, Darwin's Rhea *Rhea pennata*, Helmeted Guineafowl *Numida meleagris* and Southern Screamers *Chauna torquata* shared their paddocks with various mammals; the Screamers living alongside Pudu, a delightful miniature South American deer. A flock of Chilean Flamingo *Phoenicopterus chilensis* occupied their own spacious area. The excellent penguin enclosure had an extensive shingle beach, and a very large, deep pool, with underwater viewing. The main inhabitants were a sizable colony of Gentoo Penguins *Pygoscelis papua*, along with a couple of elderly and apparently hydrophobic Southern Rockhoppers Eudyptes chrysocome – not birds commonly seen in British zoos. Nearby a large aviary contained a magnificent breeding pair of White-tailed Sea-eagles *Haliaeetus albicilla*, a species which has very recently re-colonised Ireland. Moving on to the main aviary range and tropical house there was much of interest. Psittaciformes included two species of Black-cockatoo (Red-tailed *Calyptorhynchus banksii* and Short-billed *Zanda latirostris*), Moluccan *Cacatua moluccensis*, Citron-crested *Cacatua sulphurea citrinocristata*, and Palm Cockatoo *Probosciger aterrimus*, as well as Lilacine Amazons *Amazona lilacina*, all in beautiful condition. Other aviaries contained Giant Wood-rail *Aramides ypecaha*, Laughing Kookaburra *Dacelo novaeguineae*, Tawny Frogmouth *Podargus strigoides*, Lilac-breasted Roller *Coracias caudatus*, Toco Toucan *Ramphastos toco*, White-browed Coucal *Centropus superciliosus superciliosus*, Blue-crowned Laughingthrush *Garrulax courtoisi* and a ten plus bachelor flock of Bali Starling *Leucopsar rothschildi*. Other starlings, both here and in the tropical house were Greater Blue-eared Starling *Lamprotornis chalybaeus*, Brahminy *Sturnia pagodarum*, Violet-backed *Cinnyricinclus leucogaster* and Superb *Lamprotornis superbus*. Also represented were various thrushes and turacos, with Chestnut-backed *Geokichla dohertyi* and Orange-headed *Geokichla citrina* amongst the former, and Purple-*Gallirex porphyreolophus*, Red-*Tauraco erythrolophus*, and White-crested *Tauraco leucolophus*, plus Violaceous *Musophaga violacea*, amongst the latter. Pigeons and doves were also much in evidence. These included Grey-capped Emerald

Chalcophaps indica, Luzon Bleeding-heart *Gallicolumba luzonica* and Socorro Dove *Zenaida graysoni* and Green-naped Pheasant-pigeon *Otidiphaps nobilis*, Nicobar Pigeon *Caloenas nicobarica*, Pied Imperial-pigeon *Ducula bicolor* and Scheepmaker's Crowned-pigeons *Goura scheepmakeri*. Crested Wood Partridge *Rollulus rouloul*, Wattled Jacana *Jacana jacana* and Sunbittern *Eurypyga helias* provided understory interest in the tropical house, where Java Sparrows *Lonchura oryzivora*, observed displaying and carrying nesting material, were also obviously finding conditions very much to their liking! It is also worth noting that the mammal collection at Belfast is also exceptional, with many endangered species. Goodfellow's Tree Kangaroo, Fossa, Temminck's Golden Cat, Linne's Two-toed Sloth and many other rarities were all seen. The Primate collection contains Bearded Saki Monkeys (one of only two colonies in Europe) and some eighteen other species, including various Lemurs, Marmosets and Tamarins, Chimpanzees and Lowland Gorillas.

Following lunch, we proceeded to The World of Owls, situated in Randalstown Forest outside Belfast. This charitable organisation was set up by Mike and Eli Gibb, with the primary aim 'to ensure the survival of owls throughout the world; to be achieved by rescue, conservation, education, research and restoration of natural habitat.' Although the primary focus remains with owls, other birds of prey and, indeed, anything else in need of 'rescue and/or re-homing' have also been taken under the metaphorical wing. We were kindly shown around by Mike himself, and Mathew McCormick, the Curator/Director. This is a very impressive set up, despite being so highly dependent on charity and voluntary help. The immaculate grass floored aviaries were very spacious and well designed. The sanctuary had recently suffered an attack by vandals, which had resulted in considerable and widespread damage to many of the flights. Undeterred, Mike and his team were using the resultant insurance money to enlarge and improve the facilities. The collection houses the most diverse collection of owls in the UK. Species seen included a very comprehensive range of Eagle-owls *Bubo spp*. which included Eurasian *B. b. bubo*, Turkmenian *B. b. turcomanus*, Spotted *B. africanus*, Verreaux's *B. lacteus* etc. and the unusual Forest Eagle-owl *B. nipalensis*, a bird that might be taken for a Fish-owl at first glance. A true Fishing-owl, the Vermiculated *Scotopelia bouvieri*, was available for comparison, along with Barn *Tyto alba*, Tawny *Strix aluco*, Short-eared *Asio flammeus*, Snowy *B. scandiacus*, Ural *Strix uralensis*, Hawk *Surnia ulula* and South American Great Horned Owls *B. virginianus nacurutu* and the delightful and diminutive Boobook *Ninox spp*. This list is by no means exhaustive! Other birds of prey included Turkey Vulture *Cathartes aura*, Steppe Eagle *Aquila nipalensis*, Lanner Falcon *Falco biarmicus* and Harris's *Parabuteo unicinctus* and Red-tailed Hawk *Buteo jamaicensis*. Some of these birds also took part in falconry displays, a useful educational attraction for the Sanctuary. A small collection of 'rescued' passerines and reptiles, along with a variety of domestic poultry could also be seen. Last, but by no means least, a pair of Macaws (one Scarlet *Ara macao* and one hybrid) sat on the roof of their cage in the office; a situation that the staff were keen to resolve by appropriate re-homing. (We did in fact mention these birds to another contact later on the trip and he thought he might be able to help...here's hoping!) I'm sure that all other members who shared the pleasure of this visit will join me in wishing them well for the future.

Following a night's rest (for some; have you ever travelled with the Avicultural Society?!) the next morning saw us heading for the Wildfowl and Wetlands Trust's reserve at Castle Espie. Situated on the shores of Strangford Lough, the site is internationally important as the wintering grounds for almost the world's population of Light-bellied Brent Geese *Branta bernicla hrota*, as well as significant numbers of other waterfowl and waders. The site is also noted for a range of passerines, gulls, otters, bats, dragonflies and moths. As there is also an extensive captive collection of native and exotic waterfowl, it has much to offer. Unfortunately, the weather was blustery and squally for much of our visit. That said we nevertheless had a splendid visit, thanks to our enthusiastic guide, the Trust's aviculturist, and the high standard of the cafeteria!

En route to our Dublin hotel, our next port of call was the private collection of Tommy Haran, in Julianstown, County Meath. Tommy is a sheep farmer by profession, but also somehow finds the time to maintain a huge private avicultural collection. The birds are housed in two hundred plus spacious aviaries, while part of a barn has been converted to contain incubation and chick-rearing facilities, as well as providing indoor accommodation for a couple of pairs of Psittaciformes. The bulk of the aviaries are to be found in a beautiful old walled garden near the Harans' lovely farmhouse, but has also spread to include large ranges of poult rearing pens and flights around the original farmyard. The bird collection was, quite simply, stunning! A relatively small aviary of three outdoor flights attached to wooden shelters on the edge of the farmhouse's back lawn held a beautiful pair of Golden-heart Doves *Gallicolumba rufigula*, Green-winged Dove *Chalcophaps indica* and Rouloul *Rollulus rouloul*, amongst others. Other doves and softbills (including several turaco species) shared larger aviaries within the walled garden, but the focus of the collection was the truly amazing collection of galliforms. An attempt to cover all the species present would read like a checklist of Pheasants of the World, so, for the sake of brevity, only a selection of the birds seen will be presented. These included 3 species of Tragopan, and, a highlight for me, several immaculate pairs of Koklass *Pucrasia macrolopha*. These last were housed in spacious, grass floored aviaries; conversation revealed that, apparently, the birds did not suffer unduly from parasitic infections, given enough space and a regular worming regime. There were also Himalayan Monal *Lophophorus impejanus*, and at least three species of Junglefowl *Gallus spp.*, with several clearly differentiated island races of the Red *G. gallus*, which was very nice to see. The same applied to Kalij and Silver Pheasants, and again, it was particularly pleasing and interesting to be able to make comparisons between the various forms. It was amusing to find an old badminton racket next to the door of the Silver's pen. Anyone who has worked closely with this beautiful but aggressive species had little difficulty in identifying this as a necessary implement of self-defence! Other *Lophura spp.* included Edward's and both Crestless and Crested Firebacks were present. Three species of Eared-pheasant *Crossoptilon spp.*, Cheer *Catreus wallichii* and various *Syrmaticus spp.*, including Scintillant *S.*

soemmerringii scintillans and Ijima Copper *S. s. ijimae*, Elliot's *S. ellioti*, etc. were all in immaculate condition, as were various races of the *Phasianus* complex. Again, it was very interesting to be able to compare the different varieties of these at close hand. Pure bred Golden *Chrysolophus pictus* and Lady Amherst's Pheasant *Chrysolophus amherstiae*, various Peacock-pheasant *Polyplectron spp*. (Grey, Palawan, etc.) – one would have needed days to closely observe all the species kept. Three or four more, however, deserve specific mention. Two magnificent pairs of Great Argus *Argusianus argus* were in beautiful condition, as were Green Peafowl *Pavo muticus* and Ocellated Turkey *Meleagris ocellata*, and at least two breeding pairs of Great Curassow *Crax rubra* were amongst the other highlights. Tommy effectively cares for the collection alone, with only limited outside help. This is aided in part by using automatic drinkers and feed dispensers. The latter consist of a mouse-proof 'store' accessed by the birds by standing on a push bar. It seems that the larger, heavier species adapt to this method very quickly. However, there can be difficulties with smaller, lighter varieties, whose weight may not be sufficient to depress the bar. Despite not being in the latter category, Junglefowl were apparently very slow to master it and needed careful observation to be kept! The visit was rounded off by a wonderful buffet, with delicious homemade cakes, pastries and sandwiches.

The following morning, we left Dublin to visit Tayto Park, Ashbourne, County Meath. Opened in 2010, by a potato growing magnate, it is listed as a 'crisp/chip' themed amusement park. I must admit that many of the party were somewhat dubious regarding this destination. As it turned out, the zoo was geographically well separated from the multitude of cacophonous rides, and our doubts were unfounded. Indeed, for anyone interested in animals, it well deserves a visit. Again, we were warmly welcomed by the staff. Many thanks to the Senior Keeper, and Curator Lee Donohoe who gave up their time to show us around. The mammal collection held some unusual species: Amur Tiger, Mountain Lion, Amur Leopard, Ocelot, Serval, European Lynx, and a breeding pair of Fishing Cats amongst the felines, while the rarely seen Aardwolf, Tayra, and the very attractive Corsac Fox from the steppes and semi-desert of Central Asia were also observed. Other small carnivores included Asian Small-clawed Otter, Meerkat, Coati, and a mixed exhibit of Skunk and Racoon. Rather charmingly, one of each of these two species was cuddled together in their indoor enclosure! Primates were mainly South American: Red-bellied Tamarin, Squirrel and Goeldi's Monkeys being noted. Neither was the ungulate collection extensive, but American Bison, Barbary Sheep and various domestic breeds, including the rather attractive Valais Blacknose Sheep could all be seen. Last, but by no means least was a huge enclosure for the endangered Madagascan Fossa. The bird collection is still under development, and, while not large, contained a very representative selection, which was well housed in spacious, planted aviaries/enclosures. Various pheasants shared their aviaries with Turaco (Violaceous, etc.), while a very large flight held Red-crowned Crane *Grus japonensis*, Little Egret *Egretta garzetta*, Purple Gallinule *Porphyrio martinicus* and some waterfowl. Apparently, if the Cranes become aggressive, the other birds simply take themselves into the upper reaches of the aviary or the dense shrubbery! Other aviaries housed Rainbow Lorikeet *Trichoglossus moluccanus* and a very nice young pair of Blue-winged Kookaburra *Dacelo leachii*. These latter shared their space with (of all things) a single Canary *Serinus canaria*! It has apparently not been molested... so far. The bird of prey collection was also interesting, and included several species that were also used as part of the falconry displays. Eurasian Eagle-owl *B. bubo*, Snowy *B. scandiacus* and Barn Owls *T. alba* were noted, while I particularly liked a Verreaux's or Milky Eagle-owl *B. lacteus* being shown on the fist at the same time as a Black Eagle *Ictinaetus malaiensis*. Children standing nearby were extremely impressed by the notion that the former sometimes predated the latter, despite the Eagles' much larger size. Black Vulture *Coragyps atratus*, Common Kestrel *Falco tinnunculus* and a magnificent Steller's Sea-eagle *Haliaeetus pelagicus* were also part of the display. The accompanying commentary was very good, with an excellent emphasis on the ecological adaptations of the birds on show. All in all, a very enjoyable morning, and we were all given a free pack of crisps on leaving!

Our next destination was Donal Campion's private collection at Kilkenny. This was an act of great kindness on Donal's part, as he had only left hospital on the previous day following a hip replacement. The sloping site leads from the house down to a natural small lake. We were given free range to explore the labyrinthine ranges of pens and aviaries. Donal keeps a very wide variety of species, with the emphasis being on game birds and waterfowl. Birds seen included breeding Scarlet *A. macao* and Blue and Gold Macaw *Ara ararauna* (although not by me, as they retreated to their nest-boxes upon being confronted by the AS in full cry!) and a large colony of Peach-faced Lovebird *Agapornis roseicollis*. There were also various Australian waxbills (Star, Heck's etc.) and Doves (e.g. mutation Diamond.). Donal also possesses white (albino?) Moorhen, although these had to be persuaded to leave their shelter to be viewed, and appeared rather nervous. Turning to the galliforms, Green *P. muticus* and Blue Peafowl *Pavo cristatus* (these last including various mutations) Monal *Lophophorus spp.*, Eared-pheasants *Crossoptilion spp.*, Tragopans *Tragopan spp.*, various *Lophura and Syrmaticus,* Junglefowl *Gallus spp.* and varieties of Common Pheasant *Phasianus colchicus* were all observed. A range of raised pens housed American Quail (Californian, Gambel's, Mountain, Speckled Bobwhite etc.) and Partridge (Red-legged, Chukar etc. including mutations) while various breeds of domestic chicken and bantam ranged across the whole area. The waterfowl collection was particularly impressive: Coscoroba *C. coscoroba*, Black-necked *Cygnus melancoryphus* and Black Swan *Cygnus atratus*, various grey *Anser spp.* and black *Branta spp.* geese could all be found on the lake. Of interest was the range of Shelducks and Sheldgeese *Chloephaga spp.*, as these rather aggressive birds are not often seen in collections. They included Ruddy *Tadorna ferruginea*, South African *Tadorna cana*, and Paradise Shelducks *Tadorna variegata*, and Ashy-headed *Chloephaga poliocephala* and Lesser Magellan Geese *Chloephaga picta picta*. Given their turbulent temperament, Cereopsis were wisely housed in separate, individual pens. Six species of Whistling-duck *Dendrocygna spp.* were present, alongside dabbling ducks too numerous to mention. Mandarin and Carolina

Aix spp. in various mutations, Maned Goose *Chenonetta jubata* and various Pochards were also observed. Once again, we were provided with a light buffet; typical Irish hospitality.

Following a very nice evening out in Dublin, complete with Irish folk singing, our last morning was spent at Dublin Zoo. The largest zoo in Ireland, it was originally opened in 1831. It is beautifully situated in Phoenix Park, set in a steep-sided valley leading down to two small lakes. While not possessing a very large bird collection, the mammal collection and gardens are superb, and well deserve a visit. The first birds we encountered were a breeding colony of Northern Bald Ibis *Geronticus eremita*, their aviary occupying the site of what had once been the Bear Pits, the sides of the pits now converted into cliffs for the birds. A few flights around the Reptile House contained Yellow-backed Lory *Lorius garrulus flavopalliatus*, Military Macaw *Ara militaris* etc., but the zoo's two main avian attractions are the breeding colonies of the vulnerable Humboldt Penguin *Spheniscus humboldti* and the near threatened Chilean Flamingo *Phoenicopterus chilensis*. The penguins are housed in spacious pools with running water and underwater viewing. The Flamingo aviary, a large, walk in construction, obviously suits the birds very well, not least because the roof successfully excludes the ever-present marauding gulls, of which large numbers frequent the park. To me, however, it appeared architecturally rather odd within the context of its surroundings, resembling an airport departure-lounge entrance of massive steel pipework. Lord Snowdon's influence may have something to answer for here. While not avicultural, mention must also be made of the superb mammal collection and gardens. As an example of the latter, one approaches the outdoor paddock of the Asian Elephant (of which a calf had been born a day or so before our visit) through a dense planting of tall Bamboo, past a stream lined with Candelabra Primula backed by giant Himalayan Lilies *Cardiocrinum sp*. and tall Gingers *Hedychium sp*. before emerging into a 'clearing' overlooking the enclosure. Similarly, the beds surrounding the African Savanna exhibits contain mainly African plants, such as *Agapanthus, Crinum, Crocosmia, Kniphofia* and *Nerine*, all planted in a naturalistic manner. The mammal collection of some thirty plus species (the majority of which are endangered) is likewise superb, and are mainly housed in very large, mixed exhibit enclosures. For example, Western Lowland Gorilla share their quarters with Red Capped Mangabey, and Bornean Orangutan with Sulawesi Macaque.

Thanks must be given to all our hosts, Chris Green for organising the contacts, our travel agent for co-ordinating it, and last but by no means least, our coach driver for his humour and patience.

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BREEDING THE YELLOW-THROATED GREENBUL
Chlorocichla flavicollis

by Llŷr Davies, Aviculturist, Waddesdon Manor Aviary

Natural history

A large, noisy non-forest bulbul; this species is evaluated as Least Concern, having an extremely large range of 6.15 million km^2, an apparently stable population trend, and being reported to be common to locally abundant. It is sedentary in at least 1 of the 28 central & western African countries in which it resides. 3 subspecies are recognized: the nominate race ranges from Senegambia E to NW Central African Republic; a geographically isolated population of race *soror* occurs in WC Ethiopia, yet this race can also be found living alongside *flavigula* in contiguous ranges from NC Cameroon E to W Kenya, and S to Angola. Wooded and bushy habitats away from forest are preferred, where it forages almost always in small family parties for fruit, including guava, mango & red pepper (also some insects, including beetles and caterpillars) mostly at low levels. Thought to be a co-operative breeder, the nest is a cup of small twigs, rootlets, leaf stems and dry leaves, is built by only one of the pair, placed 2–10m above ground in tree fork, usually in a tree with dense foliage; frequently in suburban locations, often close to buildings. A clutch of 2 eggs is laid. It is a known host of Red-chested Cuckoo *Cuculus solitaries*.

Description

Adults are olive-brown with conspicuous, contrastingly coloured yellowish throat and pale eyes. Females are on average smaller than males. Juveniles are darker overall than adults, with a whitish throat. Race *soror* is distinctive, in that it has a white throat with only a trace of yellow, and is greyer overall; *flavigula* has paler belly centre and yellow throat than nominate, with whitish shaft streaking throughout underparts, and pale brown undertail-coverts.

Breeding

Waddesdon Manor Aviary (WMA) were loaned a pair in April 2013; the female of the pair was reportedly hatched the previous year by a Dutch breeder. After a month in quarantine, they were moved into in an off-show aviary with an indoor shelter (17.5x9x7' & 6x9x7' respectively) housing a pair of Pink-headed Fruit-doves *Ptilinopus porphyreus*. Over the course of their time in this aviary they were mixed with Collared Partridge *Arborophila gingica*, Palawan Peacock-pheasant *Polyplectron napoleonis*, Mindanao and Luzon Bleeding-heart doves *Gallicolumba spp*. and Orange-headed Thrush *Geokichla citrina*. No breeding activity was recorded in 2013.

In March 2014 the pair was given a different off-show aviary (18.5x6x6') all to themselves; the back (Southern) third of this enclosure is roofed and walled on the W and S sides. Exactly two months later, a greyish egg blotched with various shades of brown was seen in a wire basket we had placed at just over 1m, in a box shrub *Buxus sempervirens* at the back (S) of the aviary. There was some plant fibre around the basket's rim; but the egg was on the mesh base. The following day, the egg had disappeared. More plant fibre was added to the nest. Three weeks later another egg was observed in the nest, which was removed for artificial incubation. A couple of days after this the same was done with the second of the clutch. Another egg was observed in the nest on the 16th June, but no further chicks hatched in 2014.

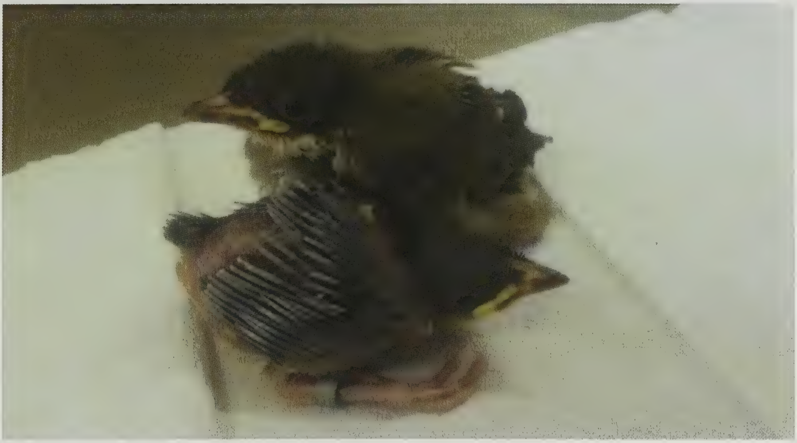
In 2015 a basket was installed in the box shrub, and a keeper-made nest placed inside, in an attempt to pique interest in breeding, to no avail.

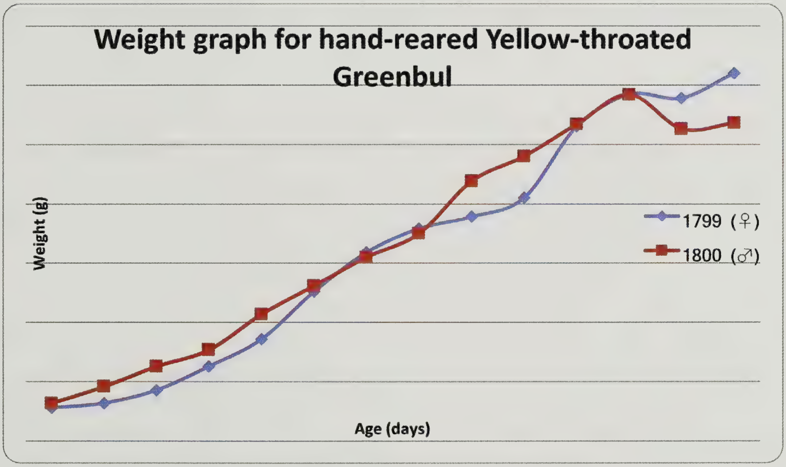
Artificial rearing

The day after being laid, the egg was set in an Rcom 20 digital incubator at 37.5°C, 50% humidity, being automatically turned every 3rd hour. On candling, fertility was visible after 4 days incubation. At pip, the eggs were placed in an artificial nest cup lined with absorbent paper & a scourer base for the chicks to grip. The eggs hatched after 15 and 17 days incubation respectively, a female on the 17th and male on the 20th June. WMA broods chicks in Brinsea Parrot Rearing modules, starting at 36°C, gradually reducing the temperature as the chicks mature & show signs of overheating. They were fed blended pinky & papaya (1:1 gradually increasing to 2:1) every hour from 6:00-23:00, decreasing in frequency by half-hourly increments, about every 3 days. Their first feed was at 6 hours old. Eyes were opening for the first time at 5 days old. Upon fledging, the chicks were placed in a heated rearing cage with perching of various heights.

1799 (♀) @ 4 days (foreground) & 1800 (♂) @ 1 day

1799 @ 10 days & 1800 @ 7 days





Parent rearing

On the 5th May 2016 a hatchling was discovered in the wire basket in the (now dead) box shrub, which died at ~2 days old, although live food was provided and the sire was observed hawking. A week later, the pair was carrying nesting material, and within a month was nesting again. After 15 days incubation, two male chicks hatched, at which point a variety of ad-lib live food was made available. In response to a keeper approaching the nest to take the photo below, one of the parents was observed performing a broken-wing display on the ground; the chicks fledged later that day at a fortnight old.

Conclusion

At WMA, this species was strongly frugivorous, consuming a significant amount more than may be expected of a bulbul of its size. Reproductive activity was only observed in 2 of the 4 breeding seasons this species was held at WMA. There is a slim possibility that this species does not breed annually naturally, though this would be unheard of for a passerine, and this pair were seemingly sensitive to disturbance. This is surprising given that this species is recorded as frequently choosing to breed close to humans in the wild. Perhaps the choice of nesting sites in the aviaries were lower, or not as densely foliated as would be optimal. Eggs were laid between April and June. According to ZIMS, WMA is the only zoo in the world to have kept this species. As far as is known, these are the first times this species has been bred in captivity. In October 2016, the proven pair was returned to their owner, along with their 3 surviving offspring.

Only 1 of the 6 of this species's congeners is of conservation concern: Prigogine's Greenbul *Chlorocichla prigoginei*, which is classified as Endangered. It has a restricted-range of only 870 km² known from two sites: the Beni-Butembo area north-west of Lake Edward and on the Lendu Plateau (LP) in the eastern Democratic Republic of Congo. There are thought to be as few as 40-50 individuals on the LP, following the loss of forest there, and it has been suggested that the total population may possibly number no more than 250 individuals. It is known solely from skins, except for some observations made over a two-day period in 1994 in a forest patch at Djugu (LP). The status of the forest in the Beni-Butembo region is unknown but it is likely to be under serious threat from local encroachment and logging. Similarly, the LP habitat was reported to be under serious threat from encroachment from surrounding villages, including widespread and uncontrolled local logging (Pedersen 1997). In 1994, only c.20 ha of forest was seen to remain. Now, all forest on the LP is reported to be gone. None of the localities from which the species has been recorded has any formal protection.

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In 2013 The Oriental Bird Club published an article on an aspect of bulbul aviculture in Thailand which Western aviculturists may be unaware of - the production of hybrids for singing contests, and the effect this may be having on wild populations of the Red-whiskered Bulbul *Pycnonotus jocosus*. The full article, with interesting photographs of various hybrids, is available at www.orientalbirdclub.org/birdingasia-20.

AVIAN ARRIVALS AND HATCHINGS AT WUPPERTAL ZOO IN 2016

by Chris Brack

Arrivals

1.1	King Penguin *Aptenodytes patagonicus* from Basle Zoo, Switzerland.
1	Bay-headed Tanager *Tangara gyrola* from Basle Zoo, Switzerland.
1.1	White Bellied Caique *Pionites leucogaster* from Chemitz Zoo, Germany.
3.2	Sun Conure *Aratinga solstitialis* from Straubing Zoo, Germany.
2.3	Sun Conure *A. solstitialis* from Zürich Zoo, Switzerland.
3.1	Emu *Dromaius novaehollandiae* from Duisburg Zoo.
3.1	Gentoo Penguin *Pygoscelis papua* from Odense Zoo, Denmark.
1.1	Spangled Cotinga *Cotinga cotinga*, in exchange for our egg-laying female Pompadour Cotinga *Xipholena punicea*, 14yrs old from a private breeder.
1.1	Socorro Dove *Zenaida graysoni* from Warsaw Zoo, Poland.
1.1	Socorro Dove *Z. graysoni* from Paignton Zoo.
1.1	Spotted Thicknee *Burhinus capensis* from Tier und Freizeitpark Thüle.
1.1	Great Kiskadee *Pitangus sulphuratus* from Dortmund Zoo.
1.1	Bateleur Eagle *Terahopius ecaudatus* from Schmiding, Austria.

Hatchings

5	Jackass Penguins *Spheniscus demersus.*
2	Chestnut-backed Thrush *Geokichla dohertyi.*
2	Spotted Thicknee *Burhinus capensis.*
2	Madagascar Crested ibis *Lophotibis cristata* - first two birds to be parent reared in Wuppertal.
2	King Penguin *Aptenodytes patagonicus* - first chicks hatched and parent reared since 2011.The second chick hatched on 13th November, was hatched and fed by the female only, the only bird in Europe hatched so late in the season!
1	Gentoo Penguin *Pygoscelis papua* partially hand-reared due to feather ingestion.
3	Elegant Crested Tinamous *Eudromia elegans.*
1.0	Sunbittern *Eurypyga helias.*

1 of 3 male Purple-throated Fruitcrows *Querula purpurata.* This individual hatched in 2006, a world's first breeding

BOOK REVIEWS

BOOK LAPWINGS, LOONS & LOUSY JACKS

This unusual book by Ray Reedman investigates the origins of the names we use for birds. From Bonxie to Worm-eating Warbler, the text manages to be both scholarly and entertaining.

Reedman guides his reader through the development of avian nomenclature over the years. Such terms as 'wheatear' and 'wagtail' started as local names describing features of the birds concerned, and have become accepted internationally as formal designations for whole groups of species. It is emphasised throughout that language is dynamic, and changes over time. Reedman covers historical perspectives and frameworks up to the adoption of the Linnean system, and then takes the reader 'inside the system'. I knew the Muscovy duck's name derived from an association with the Muscovite Trading Company, which may or may not have been involved with its introduction to Europe. A revelation to me was the suggestion that the generic name *Cairina* refers to Cairo, so we have *Cairina moschata*, coming from Cairo or maybe Moscow - definitely somewhere exotic anyway! Fine distinctions of place names were perhaps less important in the days before widespread travel and universal education.

The book has a bias towards European, Australian and American Birds, because those are the areas with which the author is familiar. First hand encounters with birds pervade the book, often using humour to illustrate erudite etymological points.

If you want to know why the pomarine skua is so called, or the formal designation for what a Tasmania might call a 'Turbo-chook', it's all here. Photographs appear throughout, integrated in the body of the text rather than in separated glossy sections. A picture is thus next to the point it illustrates, making for a more coherent narrative. Amusing asides throughout the text refer to the author's typographical errors subsequently picked up by the proof reader. These are invariably used to create imaginary birds, such as the Shylark and the Wring-necked Duck, the latter of course being long extinct.

A final section of this delightful book covers avian nomenclature derived from the classical world. It is full of such gems as the connection between Odysseus and the specific name of the Eurasian Wigeon: marvellous stuff. I will cherish my review copy of this book, and would certainly have bought it; I'm afraid that, if you want to know what a 'Lousy Jack' is, you might have to do the same!

Pelagic Publishing, Exeter 2016
272 pages, ISBN 9781784270933

* * *

TERRA PAPAGALLI by Luís Fábio

Terra Papagalli is a collaboration of the work of artist Eduardo Parentoni Bretta and scientist Luís Fábio Silveira. The title means 'land of parrots' which is how Brazil is named on a 1516 map – the oldest nautical map to cover the entire world at that time. Parrots represented the American tropics and appeared on nearly all 16th century maps to identify the land now known as Brazil.

It was well-named. Brazil's wealth of parrots is unmatched by any other country. The book covers Brazil's parrots only -- all ninety-one species. No other volume has ever celebrated this in such a breathtakingly beautiful and accurate way.

Two or four pages are devoted to each species. In a four-page layout, only the scientific, Portuguese and English names are on the left and a plate depicting the species in on the right. The next page features (full-page) a detail from the painting, opposite the page with the short text, in Portuguese and in English, and a distribution map and range details.

Author Luís Fábio is curator of the world renowned bird collection of the Museum of Zoology of the University of Sao Paulo, the largest collection of skins of Brazilian birds in the world. Having published one hundred plus scientific papers and fourteen books, he is one of Brazil's most important ornithologists. What the jacket blurb does not tell you is that he kept and bred parrots from an early age. The text briefly describes appearance and habits and often includes a likely location to see the species.

These birds are his passion! This is obvious when you read in his Introduction: *A lot has been learned about parrots and we still have a lot to learn. Throughout our long history of interaction, the parrots have shared with us a relationship of love, admiration and companionship. In return, humans have responded with deep mistrust, intolerance and contempt, leading to the extermination of thousands of birds without pity or the slightest trace of regret. Out of so many birds, there is probably no other group capable of instilling in humans so many and such varied emotions as parrots.*

Yes, we humans have treated them so badly, a fact that rarely gets a mention in the literature. So here Luís Fábio pays homage to these iconic birds that give us so much pleasure. It was a dream come true for him to produce this book with an artist whose talents are extraordinary. Parrot art is of great interest to me. Often one finds that the plumage is faithfully depicted but the personality is missing. Not so here! The bird could step off the page on to your hand!

Occasionally a bird book is published with such compelling images that it stays in the mind forever. This is a large, heavy volume, measuring 28 x 35cm (11 x 14in) – needless to say it is expensive. However, I feel "A thing of beauty is a joy forever" and there is no denying the exquisite beauty of this volume.

Published by M'Arte, ISBN 978 856 9827-00-9.
Available from www.nhbs.com
(Totnes, Devon), price about £150. - ROSEMARY LOW.

* * *

UNDERSTANDING PARROTS – CUES FROM NATURE by Rosemary Low

Whether you work with birds professionally, privately or have companion birds, this is a must-have book on your bookshelf. Rosemary takes the reader on a perceptive journey into the lives of all things parrot. Only through understanding the wild habits of these multifaceted birds can we provide the foremost care and do justice to them in captivity.

I love Rosemary's style of writing, be prepared for an assortment of emotions as you turn the pages, comical antics will have you laughing out loud, frustration and anger over the ignorance of some, a few 'oh' and 'ah' moments, ending on a rather sombre but very insightful point.

Whilst the content of the book focuses primarily on parrots, much of what is written is highly transferrable to other avian families and is worth the read regardless of your interests.

If you want to respect the bird(s) in your life, read and digest this book.

This book is published by Insignis Publications, recommended price £21.99 but on offer to AS members for £16.95 plus £3.95 postage (UK), from Rosemary Low, P.O.Box 100, Mansfield, Notts NG20 9NZ.

www.rosemarylow.co.uk/bookshop

Louise Peat
Registrar
Cotswold Wildlife Park

KAKAPOS *Strigops habroptilus* HAVE AN EXCELLENT BREEDING SEASON

Kakapos are world-famous for their bizarre appearance and their rarity. With a global population of merely 123 adults, a bumper breeding season looks set to increase their population by nearly a third. In a land renowned for unusual creatures, New Zealand's "Owl Parrot" or Kakapo is surely a candidate for the most outrageous. The size of a small dog but with the stature of a penguin, this large, rotund bird has an owl shaped head and cat-like whiskers. Being the heavyweight of the parrot world means the Kakapo is flightless, and preferring its own nocturnal company makes it pretty antisocial too. One aspect the Kakapo has in common with some of its airborne cousins is extreme longevity, with certain individuals known to live for 120 years. Befitting a bird that is in it for the long haul they are also notoriously picky breeders, only attempting to reproduce once every three to five years and coinciding with the abundance of their favourite food, the fruit of the Rimu tree *Dacrydium cupressinum*.

When this painfully slow reproductive rate is coupled with an inability to escape the jaws and claws of a whole host of introduced predators, it is perhaps no surprise that just 25 years ago the Kakapo was being earmarked for extinction.

With numbers dipping to fewer than 50 birds in 1990, a recovery programme was quickly launched. Since then a small and dedicated team, using artificial insemination, artificial incubation, and careful nest management of wild birds has slowly but surely increased their population to 123 adults, all contained within three small, predator-free islands.

Following a bumper Rimu fruit crop, conservationists predicted this year to be a record-breaking year for the Kakapo, but the numbers have exceeded all expectations with 36 chicks surviving the perilous first few months of life and delighting the team – to put this figure into context, only six chicks were reared during 2014, making 2016 all the more significant.

* * *

OMNIVOROUS DABBLING DUCKS RESPONSIBLE FOR SPREADING SEEDS

Omnivorous dabbling ducks Anatinae number in the millions worldwide. They are highly mobile and migrate long distances, which suggests that they may disperse seeds from a wide variety of plants over a wide area. To find out, data was collected on seeds ingested by seven species of dabbling ducks, recording more than 400 plant species. Surprisingly, more than half of the seeds came from plants that were not previously known to be animal-dispersed, and many grew in habitats other than the wetlands that dabblers normally prefer. The data suggest that in Europe alone, and depending on the season, dabbling ducks may disperse up to 5 billion seeds daily many more than previously suspected.

* * *

INVASIVE MANTIDS PREDATE BIRDS

Research has recently shown that some introduced species of the larger mantids into North America have recently started to prey on some birds. *Mantis religiosa*, *Tenodera augustipennis* and *T. sinensis* have been recorded as catching a number of species; the majority are hummingbirds with the Ruby-throated *Archilochus colubris* being the most frequently taken. Like Sparrowhawks in UK gardens that are taking birds attracted to bird feeders, some mantids now lie in wait near feeders and pounce on the victims as they come to feed. These stealth hunters are more than a match for feeding hummingbirds.

* * *

EUROPEAN BEE-EATERS *Merops apiaster* ATTEMPTED BRITISH BREEDING

For only the third time in a decade European Bee-eaters nested in the UK. Seven pairs took up residence in a quarry in Nottinghamshire with three pairs hatching young. No nests were successful and this was put down to poor weather at a critical time.

* * *

HOUSE FINCHES *Haemorhous mexicanus* DETER NEST PARASITES WITH CIGARETTE BUTTS

Some Mexican House Finches have been known to unpick the fibres of cigarette butts and weave them into their nests. It is thought they do this to help reduce the parasite burden and is achieved because to the toxic make-up of the fibres. To test this theory, scientists in Mexico placed more ticks in nests that contained the fibres and this was counterbalanced by the collection of more fag ends. There is some evidence to show that chicks also suffer to some degree but by and large the population is thriving.

* * *

NEW SPECIES OF AMAZON PARROT DISCOVERED ON THE YUCATÁN PENINSULA

A new species of Amazon Parrot, the Blue-winged *Amazona gomezgarzai* has been discovered on the Yucatán Peninsula. It is believed that only around 100 birds survive. Two birds were collected alive and DNA samples confirming the species as new also showed that it evolved from the White-fronted *A. albifrons* about 120,000 years ago.

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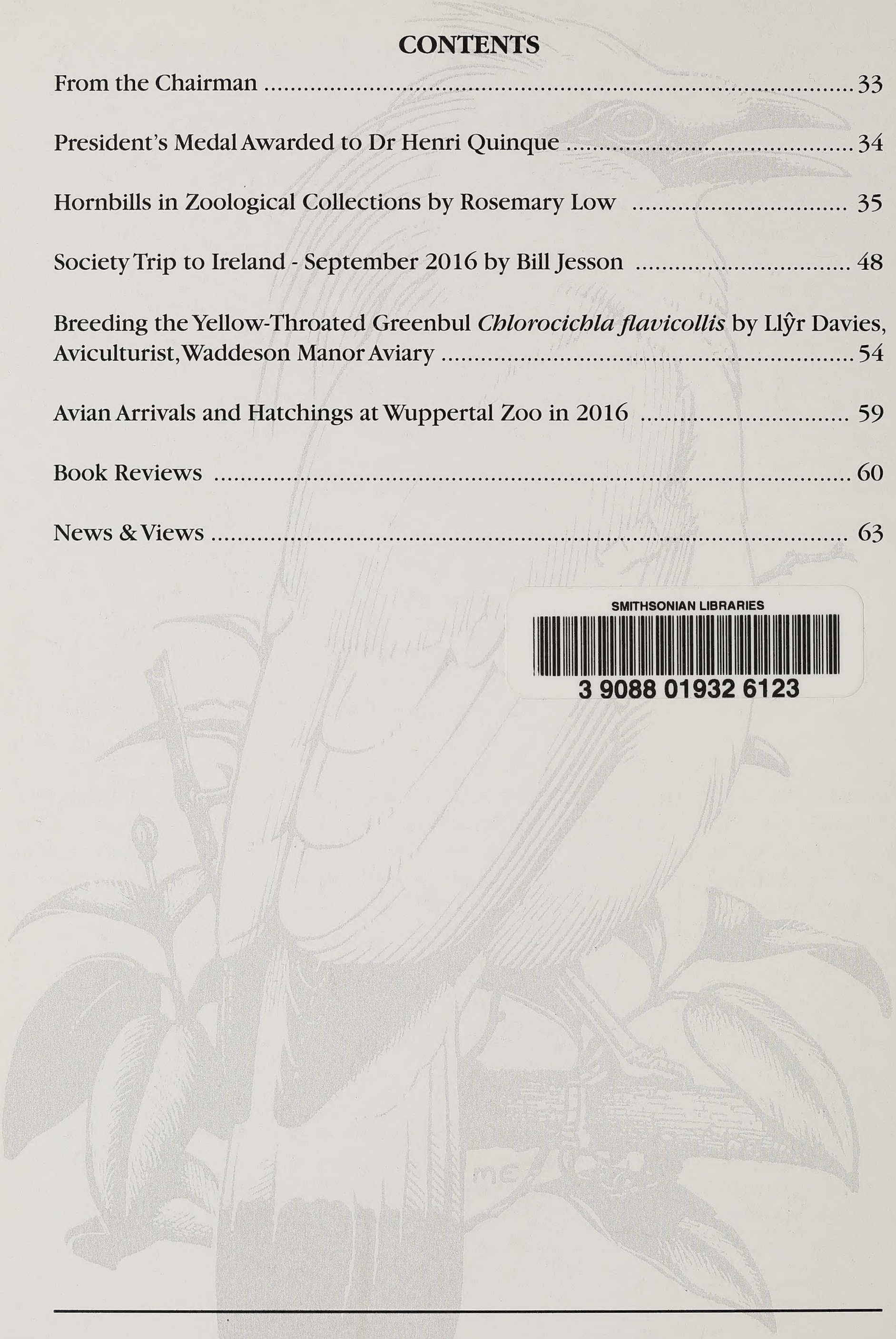

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